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IV

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,731	07/03/2001	Jong-Youn Choi	Q64401	8173
7590	12/28/2004		EXAMINER	
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, NW Washington, DC 20037-3213			LEE, CHI HO A	
			ART UNIT	PAPER NUMBER
				2663

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/897,731	CHOI, JONG-YOUN	
<b>Examiner</b>	<b>Art Unit</b>		
Andrew Lee	2663		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 03 July 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-9 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3 and 5-9 is/are rejected.  
 7) Claim(s) 4 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 03 July 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/3/04; 2/25/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities:

Claim 1, line 11, "multiplexingand" should be two separate words. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) fig. 1 in view of Schweitzer, III U.S. Patent Number 5,208,545.

Re Claim 1, APA fig. 1 teaches a TDM multiplexing unit 110 for transmitting plurality of signals from digital signal generation logic unit group 100. APA fig. 1 fails to explicitly teach "a phase filter group" between the 100 and 110. However, Schweitzer, III teaches a plurality of LFP 49 (a phase transition filter) each coupled to the input channels 40-45 (filters equal the number of channels) for eliminating the skew phase in the Multiplexer 51, wherein the function of the Multiplexer 51 is analogous to the TDM Multiplexing unit 110 of the APA fig. 1. In particular, Schweitzer, III teaches the Control 50 (phase information is assigned to the filter group) that controls the channel selection (See col. 3, lines 1-16 & col. 4, lines 16-26) for compensating phase in each LPF

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relative to each channel. One skilled in the art would have been motivated by Schweitzer, III to include phase compensating LPF between the 100 and 110 for eliminating phase skew in a multi-channel. Therefore, it would have been obvious to one ordinary skilled to incorporate the teaching of Schweitzer, III into the APA of fig. 1.

Re Claims 3, 5, refer to Claim 1, Schweitzer, III teaches the Control 50 (a selective signal generator) that controls the channel selection for compensating phase in each LPF relative entering the Mux 110 (a transmitter).

Schweitzer, III fails to explicitly teach the “a phase signal generator”. Examiner takes official notice that a phase signal generator is available to one original skilled and obvious to combine into the Control 50 to determine the phase estimate to enable phase compensation in the LPF.

Re Claim 8, refer to Claim 1, wherein the APA fig. 1 includes a multiplexing unit, a controller, a D/A converter, a sampling and holding unit, and a LPF group.

Re Claim 9, refer to Claim 1, wherein it is inherent that phase compensation is based on the need of the phase difference, if no phase difference is detected, no phase compensation is needed.

4. Claims 2, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) fig. 1 in view of Schweitzer, III U.S. Patent Number 5,208,545 as applied to Claim 1 above and further in view of Betts et al U.S. Patent Number 5,768,311.

Re Claims 2, 6, 7, (APA) fig. 1 in view of Schweitzer fails to explicitly teaches the details of LPG 49. However, Betts et al teaches the details of the LPF comprising: a

plurality of delays (103-N); a first multiplier 107-1 for multiplying a first coefficient by filter Coefficient 105 in Distributor 115 (a first coefficient storage unit; a coefficient supplier); a second multiplier (107-N) coupled to receive Coefficient from 115; Summer 109 (adder). One skilled in the art would have been motivated to use the LPF in Betts et al due to commercial availability of the filter in Betts et al.

***Allowable Subject Matter***

5. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with claims 1 and 4, prior art fails to the detail components of multiplexing unit.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 571-272-3130. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-571-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AI ANDY LEE  
PATENT EXAMINER  
12/22/04

